Claims

[c1]   What is claimed is:

1. A method of frame synchronization for converting a source frame signal to a destination frame signal, wherein the source frame signal is received at a first frame rate, the destination frame signal includes a plurality of horizontal lines and each of the horizontal lines includes a plurality of pixel data, the method comprising the following steps:

outputting the destination frame signal according to the source frame signal, wherein the destination frame signal is output at a second frame rate; and

adjusting the number of the pixel data of at least one of the horizontal lines such that the first frame rate and the second frame rate are substantially the same.

[c2]   2.The method of claim 1 wherein the resolution of the source frame signal and the resolution of the destination frame signal are different.

[c3]   3.The method of claim 1 wherein the pixel data of each of the horizontal lines further includes a plurality of pixel signals and a plurality of porch signals and when adjusting the number of the pixel data, the number of the

porch signals is adjusted.

[c4]   4.The method of claim 3 wherein the number of the porch signals is an even number.

[c5]   5.The method of claim 3 wherein the number of the porch signals is a multiple of four.

[c6]   6.The method of claim 1 wherein the step of adjusting the number of the pixel data is executed by increasing the number of the pixel data to prevent underflow or by decreasing the number of the pixel data to prevent over-flow.

[c7]   7. The method of claim 1 wherein the step of adjusting the number of the pixel data is executed by increasing the number of the pixel data when the second frame rate is faster than the first frame rate or by decreasing the number of the pixel data when the second frame rate is slower than the first frame rate.

[c8]   8.The method of claim 1 wherein the horizontal lines further include a last horizontal line defined by a last horizontal sync signal and a vertical sync signal, the method further comprising the following step: adjusting the number of the pixel data of the last hori-zontal line according to the last horizontal sync signal and the vertical sync signal.

[c9]   9. An apparatus for converting a source frame signal to a destination frame signal, wherein the source frame signal is received at a first frame rate and the destination frame signal is output at a second frame rate, the destination frame signal includes a plurality of horizontal lines, each of the horizontal lines includes a plurality of pixel data, the apparatus comprising:

a buffer for storing at least a part of the pixel data; and

a converter for adjusting the number of the pixel data of at least one of the horizontal lines such that the first frame rate and the second frame rate are substantially the same.

[c10]   10. The apparatus of claim 9 wherein the resolution of the source frame signal and the resolution of the destination frame signal are different.

[c11]   11. The apparatus of claim 9 wherein the buffer is for storing the pixel data of one of the horizontal lines.

[c12]   12. The apparatus of claim 9 wherein the pixel data of each of the horizontal lines further includes a plurality of pixel signals and a plurality of porch signals, and when adjusting the number of the pixel data, the number of the porch signals is adjusted.

[c13]   13. The apparatus of claim 12 wherein the number of the

porch signals is an even number.

[c14]   14. The apparatus of claim 12 wherein the number of the porch signals is a multiple of four.

[c15]   15. The apparatus of claim 9 wherein the converter adjusts the number of the pixel data by increasing the number of the pixel data to prevent underflow or by decreasing the number of the pixel data to prevent overflow.

[c16]   16. The apparatus of claim 9 wherein the converter adjusts the number of the pixel data by increasing the number of the pixel data when the second frame rate is faster than the first frame rate or by decreasing the number of the pixel data when the second frame rate is slower than the first frame rate.

[c17]   17. The apparatus of claim 9 wherein the horizontal lines further include a last horizontal line defined by a last horizontal sync signal and a vertical sync signal, wherein the last horizontal sync signal is the last of a plurality of horizontal sync signals, and the converter adjusts the number of the pixel data of the last horizontal line according to the last horizontal sync signal and the vertical sync signal.

[c18]   18. An adjusting apparatus of a frame signal for match-

ing a display device, the frame signal including a plurality of horizontal lines, each of the horizontal lines including a plurality of pixel data, the adjusting apparatus comprising:

a buffer for storing a part of the pixel data; and

a converter for adjusting the period of at least one of the horizontal lines such that display devicecan display the frame signal.

[c19]   19. The apparatus of claim 18 wherein the pixel data of each of the horizontal lines further includes a plurality of pixel signals and a plurality of porch signals, and when adjusting the period of the horizontal line, the number of the porch signals is adjusted.

[c20]   20. The apparatus of claim 18 wherein the last horizontal sync signal is the last of a plurality of horizontal sync signals, and the converter adjusts the number of the pixel data of the last horizontal line according to the last horizontal sync signal and a vertical sync signal.